

U.S. Patent Application No. 10/674,570  
Amendment dated March 11, 2005  
Reply to Office Action of December 20, 2004

**REMARKS/ARGUMENTS**

Reconsideration and continued examination of the above-identified application are respectfully requested.

Claims 1-27 are pending and have been examined. New claims 28 and 29 have been added. With respect to new claims 28 and 29, full support for this amendment can be found throughout the present application, including, for instance, page 6, lines 8-10.

Further, the specification has been amended at page 7 to correct a typographical error. No questions of new matter should arise by this amendment and the scope of the claims remains the same. Accordingly, the Examiner is respectfully requested to enter this amendment.

At page 2 of the Office Action, the Examiner objects to the specification due to a typographical error at page 7, line 8. For the following reasons, this objection should be withdrawn.

The word "here" has been corrected to use a capital "H" since it is at the beginning of a sentence. The applicants appreciate the Examiner's indication of this informality. In view of the amendment, this objection should be withdrawn.

Also, at page 2 of the Office Action, the Examiner rejects claims 1-6, 9, 14-21, 26, and 27 under 35 U.S.C. § 102(b) as being anticipated by WO 02/42513 A2 to Cabot Corporation (hereinafter "the Cabot reference"). The Examiner asserts that the Cabot reference discloses a sputtering target of tantalum or niobium or alloys thereof that can be recovered from "the backing plate" by hydriding the metal and separating it from the backing plate. The Examiner refers to page 13, lines 26-30 of the Cabot reference. The Examiner believes that the remaining claims set forth in this rejection are disclosed in the Cabot reference and the Examiner provides page and line numbers to explain the reasoning of the rejection. For the following reasons, this rejection is respectfully traversed.

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Prior to discussing the technical merits of this rejection, the applicants do wish to point out that the present application claims the benefit of an earlier filed provisional application. In particular, the present invention claims the benefit of earlier filed U.S. Provisional Patent Application No. 60/416,048 filed October 4, 2002. This earlier filed provisional application fully supports the claims as pending in the present application. Accordingly, claims 1-29 of the present application are entitled to the earlier filing date of October 4, 2002.

Furthermore, the Cabot reference that the Examiner is relying on in this rejection was published May 30, 2002. Therefore, the Cabot reference was published less than one year prior to the filing date that the present application is entitled to. Accordingly, the Cabot reference is not prior art under 35 U.S.C. § 102(b). Furthermore, the Cabot reference would not be prior art under 35 U.S.C. § 102(a) or § 102(e) since the inventors named in the Cabot reference are the same inventors named in the present application. Therefore, §§ 102(a) and 102(e) do not apply since these sections pertain to prior art by persons other than the inventors. Accordingly, for this reason alone, this rejection should be withdrawn.

Furthermore, the Cabot reference that the Examiner relies upon relates to a hollow cathode magnetron target or HCM target. The applicants believe that there is no teaching of a backing plate in the Cabot reference. The particular disclosure relied upon by the Examiner at page 13, lines 26-30 does not relate to a "backing plate" but instead relates to an outer shell which essentially has the same shape as the HCM sputter target. Those skilled in the art do not necessarily use the term "backing plate" with respect to an HCM target outer shell and the two terms are generally not considered the same. A backing plate has a distinct meaning in the art and generally relates to a planar target on a backing plate and typically the backing plate has a larger diameter than the planar target which is located on top of the backing plate. Thus, the applicants respectfully disagree with

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the Examiner's reliance on this reference since the Cabot reference only relates to hollow cathode magnetron targets with an outer shell and not to targets having a backing plate. The dependent claims, which are dependent on claim 1, would equally be patentable for at least these reasons.

For the record, the applicants do note that the reference to "backing plate" found at page 11, beginning at line 31 and continuing onto page 12 of the Cabot reference is not with reference to a target but is with reference to a plate that is attached to the starting metal plate to eventually be formed into an HCM target as described at page 12 of the Cabot reference.

Accordingly, for these reasons, the rejection should be withdrawn.

At page 4 of the Office Action, the Examiner rejects claims 12 and 13 under 35 U.S.C. § 103(a) as being unpatentable over WO 02/42513 A2 to Cabot Corporation, which is the same Cabot reference applied in the § 102 rejection above. The Examiner asserts that the Cabot reference uses conventional means to separate the target and backing plate and that the Cabot reference describes cutting the ingot to separate a piece of target from an ingot. Thus, the Examiner believes it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Cabot reference to utilize cutting to separate the backing plate and target. For the following reasons, this rejection is respectfully traversed.

As stated above, the claims of the present application are entitled to the earlier filing date of October 4, 2002. Thus, the Cabot reference would not qualify as prior art under any section of § 102, as explained above with respect to the § 102 rejection. Therefore, no rejection would be possible for a § 103 rejection as well. For this reason alone, this rejection should be withdrawn.

In addition, as explained above, the Cabot reference does not teach or suggest a "backing plate" as that term is generally understood in the art since it relates to HCM targets with an outer shell. Furthermore, the Examiner's reliance on the cutting of the ingot to prepare a work piece to be

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formed into a HCM target as described in the Cabot reference would not be related to separating the tantalum hydride or niobium hydride from a backing plate. Clearly, claims 12 and 13 relate to the step of removing tantalum hydride or niobium hydride from a backing plate using the techniques cited in claims 12 and 13, and the Examiner's reliance on the Cabot reference as it relates to the cutting of an ingot is not relevant to this step and clearly one skilled in the art would not be motivated to modify the cutting of an ingot to perform the steps recited in claims 12 and 13. Accordingly, for these reasons, this rejection should be withdrawn.

At the bottom of page 4 of the Office Action, the Examiner then rejects claim 22 under 35 U.S.C. § 103(a) as being unpatentable over the Cabot reference in view of Ohhashi et al. (U.S. Patent No. 5,693,203). The Examiner relies on the Cabot reference as described above in the earlier rejections and further asserts that Ohhashi et al. shows the use of an inter layer between a target and backing plate. The Examiner asserts that it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the Cabot reference to use an inter layer. For the following reasons, this rejection is respectfully traversed.

Again, as describe above, the Cabot reference is not prior art under any section of § 102 or § 103. For this reason alone, this rejection should be withdrawn.

As further set forth above, the Cabot reference does not relate to a "backing plate" as that term is generally understood to those skilled in the art. Furthermore, Ohhashi et al. relates to what is considered a backing plate to those skilled in the art. This type of target design which is a planar target design clearly would be different from an HCM target design and therefore not easily combinable. Clearly, those skilled in the art would consider the two designs quite different and based on somewhat different technologies. Accordingly, for these reasons, this rejection should be withdrawn.

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At page 5 of the Office Action, the Examiner then rejects claims 7, 8, 10, 11, and 23-25 under 35 U.S.C. § 103(a) as being unpatentable over the Cabot reference in view of Kumar et al. (U.S. Patent Application Publication No. 2002/0041819 A1). The Examiner relies on the Cabot reference as described in the above rejections. The Examiner further asserts that Kumar et al. shows the use of copper which can be recovered by hydriding. The Examiner asserts that it would have been obvious for one skilled in the art to modify the invention of the Cabot reference to hydride the copper and recover it as well. Furthermore, the Examiner asserts that it would also be obvious to clean the backing plate as set forth in claim 8 of the present application. The Examiner further believes that the other limitations of claims 10 and 23-25 are also shown in Kumar et al. For the following reasons, this rejection is respectfully traversed.

As described above, for the earlier rejections, the Cabot reference is not prior art under § 102 or § 103. For this reason alone, this rejection should be withdrawn.

Furthermore, the Cabot reference and Kumar et al. both relate to hollow cathode magnetron target designs and not planar target designs and therefore, as described above, do not generally show a "backing plate." Thus, the references are different for this reason as well.

Accordingly, for these reasons, this rejection should be withdrawn.

The Examiner is encouraged to contact the undersigned should there be any remaining questions as to the patentability of the cited references in view of the claimed invention.

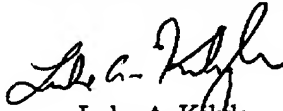
## **CONCLUSION**

In view of the foregoing remarks, the applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

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If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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